

## PATENT SPECIFICATION



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## COMPLETE SPECIFICATION.

## Improvements in or relating to Anorectal Dilators.

I, NORMAN FRANCIS PRATT, of 1448, East Duval Street, Jacksonville, Florida, in the United States of America, a citizen of the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in anorectal dilators, particularly adapted to be used in connection with the treatment of those diseases and disorders of the ano-rectal canal which are characterized by a spastic or spincter muscle, and where it is desired to expand and dilate in a definite manner and to a definite degree, the walls of said anal canal.

It has hitherto been proposed in instruments for use in the treatment of disease in the cavities of the human body, such as, the vagina, and also for use as dilators, to arrange an elastic inflatable mantle within a cover of textile fabric of an absorbent or spongy nature, the purpose of the cover being to carry on its surface the medicament used in the treatment.

The object of the present invention is to provide an improved form of anorectal dilator.

The invention consists in an anorectal dilator, in which a non-expansile member is interposed between an expansile member and a protective covering which encloses said members.

The invention further consists in the improved anorectal dilators to be herein-after described.

In the accompanying drawings:—

Fig. 1 illustrates an elevation of the assembled rectal dilator with a section taken through a portion thereof.

Fig. 2 illustrates a section taken along line 2—2 of Fig. 1.

Fig. 3 is a section taken along line 3—3 of Fig. 1.

Fig. 4 is an enlarged section taken along line 4—4 of Fig. 1.

Fig. 5 illustrates a modification of this invention.

Fig. 6 illustrates an enlarged sectional

[Price 1/-]

view of Fig. 5 taken along line 6—6.

Referring to the drawings, like numerals designate similar parts.

Numeral 1 refers to a firm rubber core having a channel 2 running part way the length of said core, with an opening 3 at its innermost extremity, and an opening 4 at its outermost extremity. A valve 5 is located near its outermost extremity. A flange 6 is adjacent the outermost opening for the purpose of securely holding in place a rubber tube 5a connected to a bulb 6.

Attached to the firm core 1 is a soft rubber bag 7, which is in turn encased by contour bag 8 of a non-elastic material. The contour bag is in turn encased by a bag of the same material as the bag 7. These bags are securely held together with no space between them at 10 and 11. A one-way valve 12 is shown at the outermost end of the passage 4.

As generally used, the dilator is inserted in a deflated condition, the small end 11 being inserted in the member desired to be exercised, the soft protective covering 9 offering very little resistance. Fluid is then forced into the bag 7 by means of pressure-bulb 6, through the passage 2, which causes the bag 7 to expand until it reaches the extremity of the bag 8. By having the contour bag formed, as shown in Fig. 1, of the drawings, with two bulges on either side, of a less distended portion, the dilator is held firmly in position without danger of slipping out or in. It can easily be seen that the shape of the bags 7 and 9 will be controlled by the shape of the contour bag 8.

After insertion and dilation, the rubber tube 5a may be removed from the dilator and the same left in the diseased part as long as desired. When it is desired to remove the dilator, the valve 5 may be opened to allow the escape of fluid from the bag 7 and cause the deflation of the expanded members, after which the dilator may be easily removed.

It is apparent from the very nature of the invention that fluids, air or water may be heated or cooled to a predetermined temperature and introduced

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through the dilator so as to expand the dilator, and, at the same time, subject the member being treated to the desired temperature.

5 Fig. 5 illustrates a modification in the construction shown in Fig. 1 of this invention, wherein numeral 13 designates a receptacle made of any suitable material such as rubber, adapted to encase a bag 14 made of non-elastic material. These 10 two receptacles or bags are arranged to encase a bag 15 which in turn is suitably attached to a core portion 16, all arranged in a similar manner to the construction disclosed in Fig. 1. The main 15 distinction between the structure disclosed in Fig. 5 compared with that shown in Fig. 1, lies in the arrangement of a core portion 16 and an inner tubular 20 element 17 made of suitable material, the tubular portion 17 extending in open communication with the bulb 18, and held in operative relationship between the core 16 and the bulb 18 by means of a core portion 19. From the hollow core 25 element 16 is adapted to extend in open communication therewith a valve 20 for allowing the air, liquid, or other fluid to flow or exhaust from the device.

30 Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:

35 1. An anorectal dilator in which a non-expansile member is interposed between an expansile member and a protective

covering which encloses said members.

2. An anorectal dilator as claimed in claim 1, having means for expanding said expansile member.

3. An anorectal dilator as claimed in claims 1 or 2, having separate valves for expanding and deflating said expansile member.

4. An anorectal dilator as claimed in claim 1, in which the non-expansile member is formed with an intermediate section of less dimensions than the sections adjacent thereto.

5. An anorectal dilator as claimed in claim 1, in which the non-expansile member, the expansile member and the protective covering are mounted upon a common core through which the fluid for the expansile member is led.

6. An anorectal dilator as claimed in claim 5, in which concentric ducts are formed in the core.

7. An anorectal dilator as claimed in claim 6, in which one of the ducts is connected to a fluid delivering device while the other duct acts to lead fluid from the expansile member.

8. Improved anorectal dilators, substantially as hereinbefore described and illustrated by the accompanying drawings.

Dated this 11th day of July, 1928.

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Fig. 2.

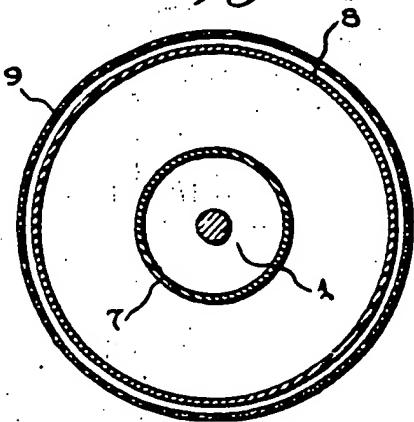


Fig. 1.

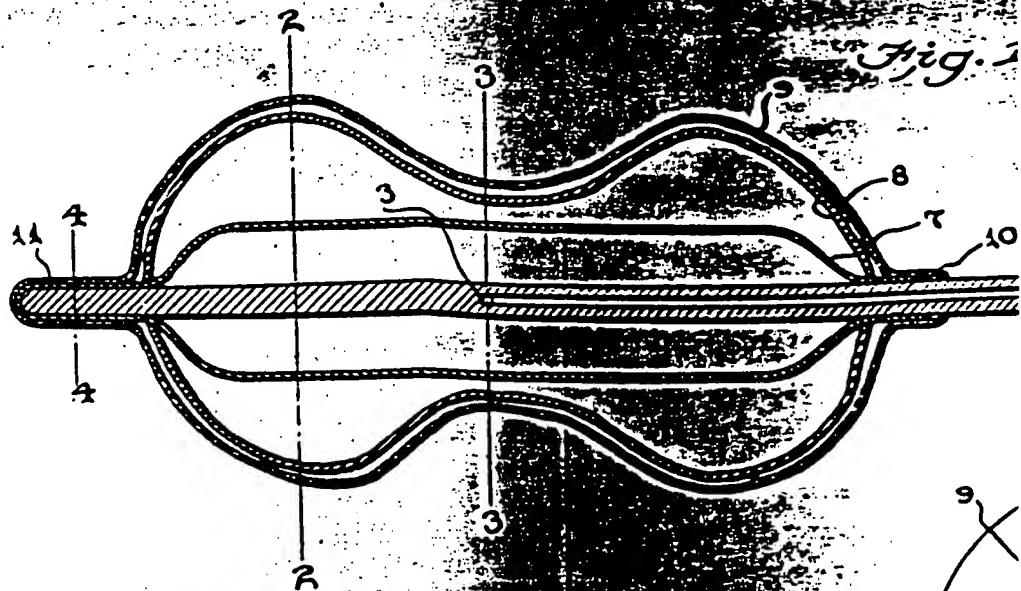


Fig. 5.

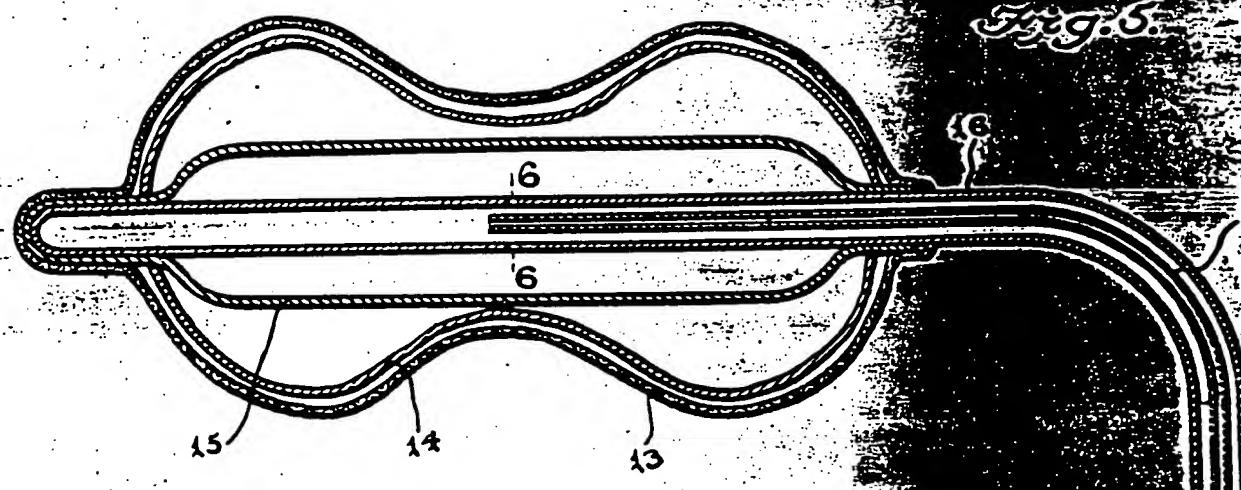


Fig. 4.

